

REMARKS

Reconsideration and withdrawal of the rejections of the claims in view of the amendments and remarks presented herein is respectfully requested. Claims 18-54 are canceled, and claims 74-89 are added; as a result, claims 1-17 and 55-89 are now pending in this application. No new matter has been added by way of this amendment.

The 35 U.S.C. §102(e)/§ 103(a) Rejection of the Claims

The Examiner rejected claims 1-17 and 55-73 under 35 U.S.C. § 102(3) [*sic*] as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Greer *et al.* (U.S. Patent No. 6,440,332). (Applicant assumes the Examiner intended to reject claims 1-17 and 55-73 under 35 U.S.C. § 102(e) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Greer *et al.*) In particular, the Examiner asserts that the provisional application upon which priority of the present application is claimed fails to provide adequate support under 35 U.S.C. § 112 for claims 1-17 and 55-73 of the present application, and thus claims 1-17 and 55-73 are entitled to the application filing date of July 11, 2001, as opposed to the priority filing date of July 11, 2000. Thus, the Examiner asserts that Greer *et al.* is available as prior art as of the 35 U.S.C. § 102(e) date, which the Examiner states is October 24, 2000. As this rejection may be maintained with respect to the pending claims, it is respectfully traversed.

As amended, the claims are directed to an article of manufacture comprising a metal substrate and a coating in contact with the metal substrate, wherein the coating comprises (1) linearly conjugated π -systems; (2) residues of sulfonated lignin or a sulfonated polyflavonoid or derivatives of sulfonated lignin or a sulfonated polyflavonoid; and (3) a film-forming resin (claims 1-16); to an article of manufacture comprising a metal substrate and a coating in contact with the metal substrate, wherein the coating comprises sulfonated lignin, polyanilines and a film-forming resin (claims 17 and 74-81); to a method of protecting a metallic substrate from corrosion comprising (1) contacting the substrate with a coating composition comprising: (a) linearly conjugated π -systems, (b) residues of sulfonated lignin or a sulfonated polyflavonoid or derivatives of sulfonated lignin or a sulfonated polyflavonoid; and (c) a film-forming resin; and (2) curing the coating composition to form a corrosion resistant coating on the substrate (claims 55-64 and 66-73); and to a method of protecting a metallic substrate from corrosion comprising

(1) contacting the substrate with a coating composition comprising: (a) linearly conjugated π -systems, polyanilines (b) residues of sulfonated lignin or a sulfonated polyflavonoid or derivatives of sulfonated lignin or a sulfonated polyflavonoid; and (c) a film-forming resin; and (2) curing the coating composition to form a corrosion resistant coating on the substrate (claims 65 and 82-89).

Applicant submits that one of ordinary skill in the art would find adequate support for the claims within the meaning of 35 U.S.C. §112 in the priority application, *viz.*, U.S. provisional patent application Serial No. 60/217,493 (the “’493 application”), which was filed July 11, 2000. The ’493 application discloses that lignosulfonic acid-doped polyaniline (“ligno-pani”) is dispersible in water and can be used to prevent corrosion in metals (page 2, Section I, B; and in a working example disclosed at pages 4-5 of the ’493 application). In addition, the ’493 application refers to U.S. Patent No. 5,968,417 (the “’417 patent”), which issued on October 19, 1999 (see section (9) of the ’493 application, under the heading “Brief Abstract”) (a copy of ’417 patent is enclosed for the Examiner’s convenience). Thus, at the time the ’493 application was filed, the ’417 patent was available to the art worker.

The ’417 patent discloses that a conductive composition of matter comprising a linearly conjugated π -system and a sulfonated polyaryl compound, *e.g.*, ligno-pani, can be used to coat fibers and fabrics (abstract; column 2, lines 23-44; Examples 1-4). The ’417 patent discloses examples of linearly conjugated π -systems, such as polymers comprising substituted and unsubstituted aromatic and heteroaromatic rings (*e.g.* 5 or 6 membered aromatic and heteroaromatic rings) (column 3, lines 11-18). In addition, as disclosed in the ’417 patent, a linearly conjugated π -system can be composed of repeating monomer units of aniline, thiophene, pyrrole, and/or phenyl mercaptan, for example, repeating monomer units of aniline, thiophene, pyrrole, and/or phenyl mercaptan that are ring-substituted with one or more (*e.g.*, 1, 2, or 3) straight or branched alkyl, alkoxy, or alkoxyalkyl groups, wherein the alkyl, alkoxy, or alkoxyalkyl groups each contain from 1 up to about 10 carbon atoms, or preferably from 1 to 4 carbon atoms (column 3, lines 23-36). Moreover, two species of the genus linearly conjugated π -system are disclosed in the ’417 patent, including polyaniline (column 3, lines 52-53; Examples 1-4) and polypyrroles (column 3, lines 60-61; Example 1).

In addition, the Examiner is urged to consider that the '417 patent discloses in detail two types of sulfonated polyaryl compounds, *i.e.*, sulfonated lignins (column 3, line 65-column 4, line 45) and sulfonated polyflavenoids, *e.g.*, sulfonated condensed tannins, and further discloses that both are commercially available (column 4, lines 46-column 5, line 2).

Thus, given the disclosure of the '417 patent, the art worker as of the filing date of the '493 application would be apprized that polyaniline is one type of a linearly-conjugated π system, and that sulfonated polyflavenoids might be used in place of sulfonated lignins in the coating of the presently claimed invention. Moreover, given that disclosed by the working example of the '493 application, *i.e.*, that water dispersible lingo-pani prevents corrosion in metals, one of ordinary skill in the art in possession of the '493 application and the data disclosed by the '417 patent would understand that the presently claimed invention is fully enabled and described within the meaning of 35 U.S.C. § 112. Because the '493 application was filed July 11, 2000, *i.e.*, prior to the 35 U.S.C. § 102(e) date of Greer *et al.*, withdrawal of the 35 U.S.C. §§ 102(e)/103(a) rejection of the claims is respectfully requested.

Claims 17, 74-81, 65 and 82-89 are independently patentable

Claim 17 (upon which new claims 74-81 are dependent) is directed to an article of manufacture comprising a metal substrate and a coating in contact with the metal substrate, wherein the coating comprises sulfonated lignin, polyanilines and a film-forming resin. Claim 65 is directed to a method of protecting a metallic substrate from corrosion comprising (1) contacting the substrate with a coating composition comprising polyanilines, (b) sulfonated lignin, and (c) a film-forming resin; and (2) curing the coating composition to form a corrosion resistant coating on the substrate. At page 7 of the Office Action mailed March 18, 2004, the Examiner concedes that the '493 application "discloses corrosion protection of metal substrate with lingo-polyaniline." Thus, claims 17, 74-81, 65 and 74-81 are entitled to the priority filing date of July 11, 2000 and are therefore patentable in view of the cited art. A notice of allowance of claims 17, 74-81, 65 and 82-89 is therefore respectfully requested.

Serial Number: 09/903,260

Dkt: KSC-12191

Filing Date: July 11, 2001

Title: CORROSION PREVENTION OF COLD ROLLED STEEL USING WATER DISPERSIBLE LIGNOSULFONIC ACID DOPED POLYANILINE

Conclusion

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at 321-867-7214 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 14-0116.

Respectfully submitted,

TITO VISWANATHAN

By his Representatives,

Date

January 14, 2005

By

Randall Hebel

Reg. No.

Reg No 28561

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 14 day of January 2005.

CAROL ANNE DUNN

Name

Carol Anne Dunn

Signature